

REMARKS

Claims 1 and 33 have been amended. Subsequent to the entry of the present amendment, claims 1-12, 33 and 34 remain pending in the application. Reconsideration of the application is respectfully requested in view of the above amendments and the following remarks. These amendments add no new matter as the claim language is fully supported by the specification and original claims.

I. Rejections under 35 U.S.C. §102

Claims 1-5, 7-12, 33 and 34 are rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Schultz et al. (US 6,180,415 hereinafter "Schultz"). Applicants respectfully traverse this rejection.

The Office Action alleges that Shultz et al. teach a solid gel matrix comprising a gel suitable for separation of biomolecules within a gel electrophoresis (col. 6, line 65-col. 7, line 3; col. 30, lines 58-66) and one or more SERS-enhancing nanoparticles (col. 10, lines 14-26; col 14, lines 21-43) contained in the gel (col. 30, lines 58-66) the SERS-enhancing nanoparticles (PRPs and PREs are nanoparticles, col. 8, lines 13-36) having an attached probe that binds specifically to an analyte (col. 23, lines 40-48 and 54-61); a sample containing at least one analyte (col. 5, lines 29-42 and lines 60-67); and an optical detection system suitable for detecting SERS signals from the nanoparticles (col. 10, lines 14-26; col. 2, lines 56-67).

A rejection of claims under 35 U.S.C. §102 is improper unless each and every element of the claimed subject matter is found, either expressly or inherently described, in a single prior art reference (*Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987); MPEP §2131). In addition, the elements must be arranged as required by the claim (*In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990); MPEP §2131).

The Office Action first alleges that Schultz discloses "a gel suitable for separation of biomolecules within a gel electrophoresis (col. 6, line 65-col. 7, line 3)". The Final Office

Action states that “in response to applicant’s argument, claim 1 requires a gel that is *suitable* for separation of biomolecules within the gel and *does not* require biomolecules within the gel” (Final Office Action, page 4, emphasis in original).

In response to this statement, Applicants have amended claims 1 and 33 to clarify that the solid gel matrix requires biomolecules within the gel, namely, “a combination of a solid gel and one or more SERS-enhancing nanoparticles contained in the gel, the SERS-enhancing nanoparticles having an attached probe that binds specifically to an analyte for separation of biomolecules within the gel by electrophoresis or magnetophoresis”.

The Office Action further alleges that Schultz discloses “one or more SERS-enhancing nanoparticles (col. 10, lines 14-26; col 14, lines 21-43) contained in the gel (col. 30, lines 58-66)”. Applicants respectfully disagree with this statement. Schultz discloses that “Radiation pressure may be also used to force PRPs through a matrix” and “If bound and free PRPs are subject to electrophoresis in, for example, an agarose or acrylamide gel, the free PRPs migrate faster than do the bound PRPs” (col. 30, lines 58-66). This passage clearly refers to separation of PRPs in a gel, not SERS-enhancing nanoparticles contained or incorporated within the gel, as required in the claims. Further, Applicants have amended claims 1 and 33 to particularly point out that the SERS-enhancing nanoparticles within the gel also have “an attached probe that binds specifically to an analyte”. The Schultz PRPs being separated in the gel at col. 30, lines 58-66 do not disclose having attached probes. The Office Action points out that that the Schultz PRPs have “an attached probe that binds specifically to an analyte (col. 23, lines 40-48 and 54-61)”. Nowhere in Schultz are these PRPs with probes disclosed in a gel for binding specifically to an analyte for separation of biomolecules within the gel by electrophoresis or magnetophoresis, as required by the claims.

Second, if the allegations of the Office Action are accurate and Schultz includes many individual elements of the present claims, it is clear that elements Schultz are not “arranged as required by the claim”. As can be seen from the rejection, the Office Action cites many different

passages in Schultz, with many of them related to different embodiments. For example, the rejection of claim 1 in the Office Action refers to six different passages in Schultz (columns 6, 10, 14, 30, 8 and 23) and for the rejection of claim 33 the Office Action refers to nine different passages in Schultz (columns 6, 10, 14, 30, 8, 23, 5, 10 and 2). For the present rejection to stand, “the elements must be arranged as required by the claim” and, as shown above, the elements in Schultz are randomly located in the reference spanning twenty four columns and are not arranged as required by the claim.

In response to the argument above, the Final Office Action alleges that “at least one embodiment taught by Schultz anticipates the claims (col. 30, lines 58-66)” and that “Schultz teaches:

- A gel containing nanoparticles (PRPs, col. 30, lines 58-66)
- These particles are SERS-enhancing nanoparticles (PRPs are SERS-enhancing, col. 14, lines 30-43; PRPs are nanoparticles, col. 8, lines 25-27)”

As pointed out above, the one embodiment taught by Schultz embodiment at col. 30, lines 58-66 does not disclose 1) PRPs with probes within a gel or 2) that the PRPs with probes are used to bind specifically to an analyte for separation of biomolecules within the gel.

Therefore, for at least the reasons set forth above, Schultz fails to teach each and every element of the claimed subject matter. Accordingly, Applicants submit that the claimed invention would not have been anticipated by Schultz and, therefore, respectfully request that the rejection of the claims under 35 U.S.C. § 102(b) of claims 1-5, 7-12, 33 and 34 be withdrawn.

II. Rejection Under 35 U.S.C. §103

Claim 6 is rejected under 35 U.S.C. §103, as allegedly being unpatentable over Schultz et al. (US 6,180,415) in view of Mirkin et al. (US 2003/0211488). Applicants respectfully traverse this rejection.

Claim 6 depends on claim 1. Applicants have shown above that amended claim 1 is not anticipated by Schultz et al. The addition of Mirkin et al. does not provide the teachings that are missing from Schultz et al. Accordingly, Applicants submit that the claimed invention would not have been obvious in view of the cited references and, therefore, respectfully request that the rejection of claim 6 under 35 U.S.C. §103 be withdrawn.

III. Information Disclosure Statement

Applicants respectfully request that an initialed copy of the PTO-1449 filed with the Information Disclosure Statement on July 15, 2005 be returned indicating that the Examiner has reviewed the references submitted therewith.

In re Application of
Su et al.

Application No.: 10/750,301

Filed: December 30, 2003

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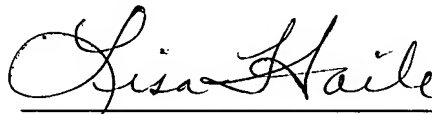
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IV. Conclusion

In view of the amendments and above remarks, it is submitted that the claims are in condition for allowance, and a notice to that effect is respectfully requested. The Examiner is invited to contact Applicant's undersigned representative if there are any questions relating to this application.

No fee is deemed necessary with the filing of this paper. However, the Commissioner is hereby authorized to charge any fees required by this submission, or credit any overpayments, to Deposit Account No. 07-1896 referencing the above-identified attorney docket number. A duplicate of the Transmittal Sheet is enclosed.

Respectfully submitted,



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